

**ABSTRACT OF THE DISCLOSURE**

A method and apparatus for selecting a modulation type and forward error correction (FEC) configuration and a sub-carrier map to maximize data throughput in a multi-carrier orthogonal frequency division multiplexing (OFDM) system for use in an inherently noisy network, such as power line distribution networks. A sub-carrier map or is constructed by selecting a sub-set of available sub-carriers using estimated sub-carrier SNR values and two predefined criteria, a SNR threshold and a useful sub-carrier ratio. The invention leverages the error correction capacity of FEC to maximize data throughput.